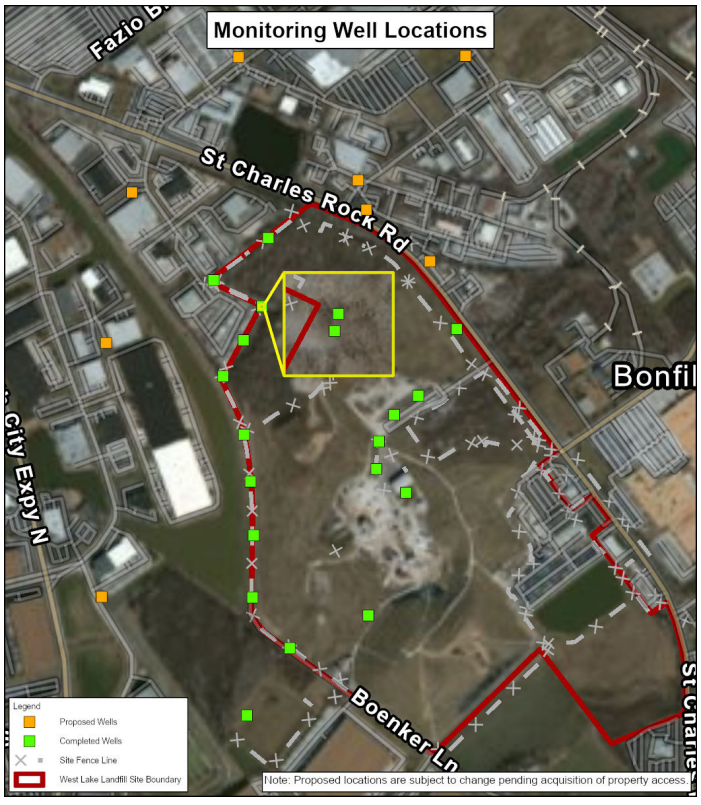
West Lake Update

July 6, 2021

OU-3 Sitewide Groundwater Remedial Investigation

In October 2020, the EPA approved the OU-3 Remedial Investigation/Feasibility Study (RI/FS) Work Plan to investigate potential groundwater contamination associated with the site. Field work to support the RI/FS began in November 2020. RI activities include a drilling program to study the subsurface geology; installation of monitoring wells; quarterly groundwater sampling for a minimum of two years; groundwater modelling that will be used to predict groundwater and contaminant movement in the future; and development of human health and ecological risk assessments to evaluate any potential risks due to contaminated groundwater.



What is Groundwater?

Groundwater is water that occupies the cracks and spaces in the soil and bedrock below Earth's surface. Groundwater slowly flows through these cracks and spaces under the ground from one area to another both horizontally and vertically. Groundwater flow may occur through multiple depths of the subsurface depending upon the composition, or geology, of the subsurface. Therefore, as the Work Plan describes, it is necessary to identify the different "layers" groundwater flows through and evaluate the direction and velocity (speed) of the groundwater flow in each layer. Because groundwater flows in a "direction," it is important to evaluate groundwater flowing toward the site, or upgradient of the site; groundwater at the site; and groundwater leaving, or downgradient of the site for each of the "layers" where groundwater is flowing. More information about groundwater may be found at www.epa.gov/superfund/superfund-groundwater-introduction

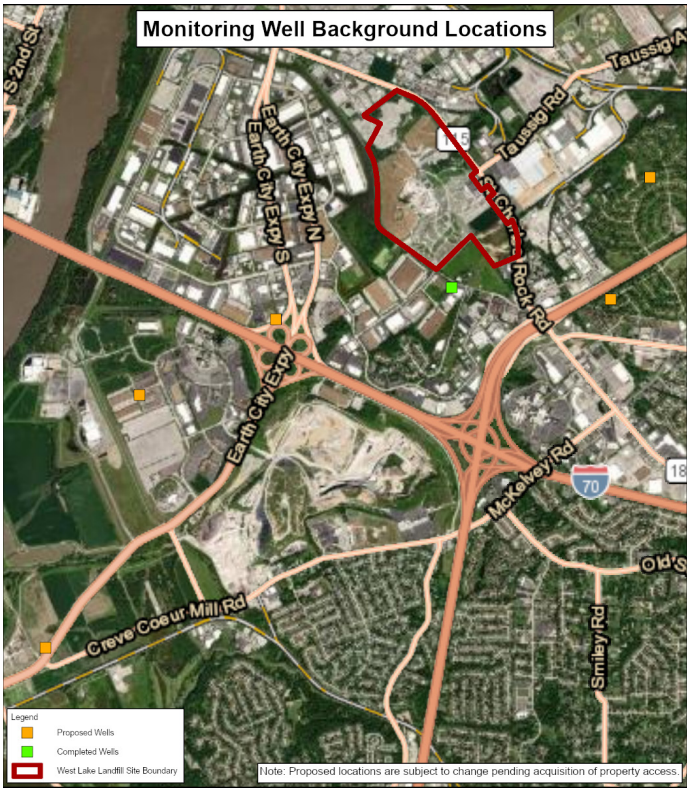
Field Activities

Data collected during the drilling program is used to make informed decisions to support construction of the new monitoring wells approved in the RI/FS Work Plan. Utilizing this information, construction of new wells began in January 2021 and will continue throughout fall 2021. Monitoring well construction began with locations on landfill property and is currently moving to upgradient and downgradient locations. Twenty monitoring wells have been completed and 12 wells remain to be constructed.

Groundwater samples are collected on a quarterly basis from existing wells, and new wells are added into the sampling program once they are constructed and ready to sample. Quarterly sampling of groundwater will continue through at least 2023. Three rounds of quarterly groundwater sampling have been completed. Data from groundwater sampling will be evaluated throughout the RI to determine if additional wells are needed, and if so, where they should be located to fully characterize the nature and extent of any groundwater contamination related to the site.

Other elements of the groundwater RI include monthly measurement of depth to groundwater in the monitoring wells, measurement of surface water elevations in surface water bodies around the site, and identification of any existing wells within a 50 square mile area around the site. Rehabilitation and maintenance of the existing groundwater wells is also performed, as necessary.

As field activities began, some changes to the approved RI/FS Work Plan were necessary, such as adjusting the locations of proposed wells based upon property-specific access issues. A series of Technical Memorandums have been created that document the PRPs requested changes to the Work Plan, followed by EPA approval or disapproval, and updated pages of the planning documents. These Technical Memorandums can be found here.



Monitoring Well Network

A comprehensive groundwater monitoring well network is being established during the RI so that all aspects of groundwater can be thoroughly evaluated. Monitoring wells located upgradient of the site are referred to as background wells. Background monitoring wells generally are placed hydraulically upgradient of the pollution source and should provide samples that are unaffected by the site and representative of background groundwater quality. The proposed monitoring well network is illustrated on the maps in this update. Each well location shown may be capable of being sampled from a single depth to as many as 5 different depths below ground surface. Depths of groundwater sampling are as shallow as 25 feet and as deep as 240 feet below the ground surface.

Current Status of Well Construction and Sampling Activities

Background monitoring wells and monitoring wells downgradient of the site are located on property not owned by the landfill. This requires the potentially responsible parties (PRPs) to secure access from each property owner where a monitoring well is to be constructed. If access is not granted, the PRPs propose an alternative location for the well, which requires the EPA's approval. A property owner's consent to access typically grants the right to not only construct a well on the property but also to sample the well as necessary. Coordinating access to private properties has taken longer than anticipated, so well drilling activities are currently on temporary standby while remaining access rights are resolved. The EPA continues to assist the PRPs with access efforts to help keep the work moving along. Well construction will resume after all access rights are finalized. Other OU-3 work is continuing, such as well development, water level measurements, and quarterly groundwater sampling activities.

Field Oversight and Health and Safety

Throughout recent field work for each operable unit, the EPA has been present on-site observing the activities being conducted to ensure they are performed in accordance with the approved Work Plans. In addition to the OU-3 RI/FS Work Plan, a site-specific Health and Safety Plan has been established for the field work being conducted. The agency's oversight includes paying close attention to the health and safety practices to ensure these plans are being adhered to while the work is being performed. The Missouri Department of Natural Resources and the U.S. Geological Survey are also providing field oversight support for OU-3.

Note: Plans referenced in this West Lake Update are available for you to review at www.epa.gov/superfund/westlakelandfill.

Community Inquiries

Ben Washburn
913-551-7364
Washburn.Ben@epa.gov

Find Us On

www.facebook.com/WestLakeLandfillSuperfundSite
www.twitter.com/WestLakeSite
www.scribd.com/eparegion7
www.epa.gov/superfund/westlakelandfill